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Research Report 1925

Full Spectrum Training and Development: Soldier Skills and Attributes

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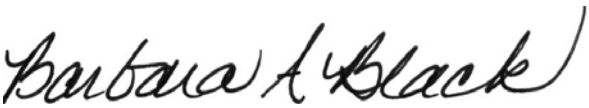

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14. ABSTRACT *(Maximum 200 words)*:

Counterinsurgency (COIN) is essentially a human endeavor that taxes the full spectrum of human capabilities. The challenges of COIN and Full Spectrum Operations (FSO) require a complementary approach to Soldier preparation referred to here as Full Spectrum Training and Development (FSTD). The goal of the research described in this report was to develop an exemplary guide for FSTD focused on the skills and attributes needed for reconnaissance leaders in FSO. This goal was achieved by developing and evaluating a guide designed to help instructors facilitate collaborative learning. The guide incorporated principles and best practices of peer-to-peer training to directly support instructors teaching reconnaissance leader skills and attributes. During development the guide underwent iterative review by course leaders and instructors as well as behavioral research scientists. The guide was then evaluated and revised based on two operational implementations. Empirical data from the evaluations suggested the guide is a valuable and welcome resource for instructors and course leaders. The report includes suggestions for extending the methodology to other U.S. Army courses.

15. SUBJECT TERMS

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FULL SPECTRUM TRAINING AND DEVELOPMENT: SOLDIER SKILLS AND ATTRIBUTES

EXECUTIVE SUMMARY

Research Requirement:

Counterinsurgency (COIN) is essentially a human endeavor that taxes the full spectrum of human capabilities. In response to the human performance challenges of COIN, the current crux of Full Spectrum Operations (FSO), the U.S. Army's training and development efforts focus increasingly on Soldier attributes such as problem-solving, initiative, and accountability. This report reflects that focus by advocating an approach to Soldier preparation referred to here as Full Spectrum Training and Development (FSTD). The FSTD approach emphasizes the core skills and attributes that Soldiers and leaders need to perform adaptively and successfully in FSO. Methods that enable an FSTD approach include peer-to-peer (P2P) training and outcomes-based training and education (OBT&E) which stress preparing Soldiers and leaders to think and act more effectively in uncertain and complex environments. The Army's mounting adoption of these training methods creates the need for guidelines and educational materials for institutional and unit settings.

Procedure:

The Army Reconnaissance Course (ARC) was selected as the venue for this research. Based on a literature review and observations of the ARC program in action, P2P training and assessment materials were developed and packaged in a user-friendly guide to facilitate FSTD. Formative evaluation harnessed a multi-stage, multi-source approach. Materials were vetted by internal subject matter experts, behavioral researchers, OBT&E advisors, ARC leaders, and instructors in a draft-review-revise process. Field testing followed an implement-assess-refine process that involved course leaders and instructors. Evaluations by users followed operational implementation to yield feedback. The guide was revised iteratively based on the feedback to produce an adaptive guide for the ARC cadre.

Findings:

The Instructor's P2P Learning Guide for the ARC, including job aids and assessment tools, was useful to ARC instructors for instilling skills and attributes in reconnaissance leaders. Feedback from instructors was generally positive for all areas of the guide. Many respondents remarked that the guide is a good instructor tool, resource, and reference through which to glean questions, scenarios, and techniques to use during instruction. Respondents also commented that the guide provides valuable tools for assessing the development of student skills and attributes.

Utilization and Dissemination of Findings:

The Instructor's P2P Learning Guide for the ARC provides a useful set of guidelines and tools for realizing Soldier skills and attributes and operationalizing the FSTD approach. The

guide is currently being used by ARC cadre, and its utilization and impact are expected to expand in stride with ARC implementations by the Maneuver Center of Excellence. A companion publication presents the complete Instructor's Guide, which has been posted on the Army Training Network Web site (https://atn.army.mil; go to: products; training enablers; OBT&E). By helping instructors train and develop the skills and attributes needed by reconnaissance leaders on complex battlefields, the Instructor's Guide helps translate the emerging FSTD approach into FSO-capable Soldiers. The guide's P2P training methods and materials and its focus on the outcomes of training and development can be readily adapted to foster the Soldier and leader skills and attributes required for FSO.

FULL SPECTRUM TRAINING AND DEVELOPMENT: SOLDIER SKILLS AND ATTRIBUTES

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FULL SPECTRUM TRAINING AND DEVELOPMENT: SOLDIER SKILLS AND ATTRIBUTES

Introduction

As today's operational environments continue to transform, Soldiers who can adapt to uncertain and unforeseen challenges have a distinct advantage (Haskins, 2009a). The enemy is no longer highly predictable as was the case in earlier eras. Soldiers are currently engaged with an unpredictable, adaptive enemy and face unforeseen problems that require them to be capable problem solvers. Historically, Army leaders approached training by conducting a mission analysis, generating a task list, and gearing training around those tasks (Ferguson, 2008). Soldiers were trained to meet a minimum standard of performance on tasks which they could efficiently execute in a predictable environment. This strategy is no longer optimal because current missions are increasingly complex due to unpredictable situations. As Field Manual 3-0 (Department of the Army, 2008a) describes, Soldiers now operate in a full spectrum environment that requires adaptive thinking and careful use of judgment.

The U.S. Army Training and Doctrine Command (TRADOC) is stressing the importance of Soldier attributes in conjunction with knowledge and skills (Department of the Army, 2009a) to handle the uncertainty of Full Spectrum Operations (FSO). "Foundationally, all Army training or education integrates attributes that include Army values and Warrior ethos. More recently, in support of FSO, we have begun to deliberately integrate attributes such as accountability, initiative, confidence, and problem-solving" (Department of the Army, 2009a, p. 64). Particularly significant is the focus on integrating skills and attributes Soldiers and leaders need to succeed across the full spectrum of military operations.

Counterinsurgency (COIN) is essentially a human endeavor that taxes the full spectrum of human capabilities. The challenges of FSO, and particularly COIN, demand an expanded training approach that complements the more comprehensive concept of Soldier preparation. This report advocates an approach called Full Spectrum Training and Development (FSTD) that focuses simultaneously on fostering Soldier and leader skills and attributes. The FSTD approach emphasizes the core skills and attributes required to accomplish FSO missions and adapt to the uncertainties and complexities of COIN. After briefly examining the requirement for FSTD, this report documents the development and evaluation of an instructor's guide focused on developing the skills and attributes needed for Army reconnaissance leaders in FSO.

Vandergriff (2006) defines adaptability as "the process by which individuals and groups decide rapidly, almost instinctively, to changes in their situation" (p. 43). A Soldier's experience in problem-solving exercises helps him become an adaptive leader (Vandergriff, 2006). Such experience is important in training so that Soldiers know "what right looks like" (Bard, 2009). The U.S. Army has responded to the need to train and educate Soldiers to operate in a full spectrum environment. For example, the Army Center for Enhanced Performance seeks to develop Soldiers who are self-aware, instinctive, adaptive, and mentally agile (Burbelo, 2009). The Army must explore new methods of training and education to produce warfighters who can think and act more effectively in complex environments.

The FSTD approach demonstrated here leverages the Army's increasing use of two training and development methodologies: peer-to-peer (P2P) training and outcomes-based training and education (OBT&E). The objective of P2P training is to build knowledge, skills and attributes through the interaction of equal-status individuals, rather than a traditional teacher-student paradigm (e.g., Costanza, Leibrecht, Cooper, & Sanders, 2009; Topping, 2005). The objective of OBT&E is to focus on the results or outcomes of training rather than the process of training (Haskins, 2009b; Vandergriff, 2009). One goal of OBT&E is to produce Soldiers who achieve skill proficiency rather than meeting a minimum standard. A concurrent goal is to develop attributes such as confidence, awareness, sound decision making, leadership, and the ability to apply their learning to achieve a goal. Both P2P and OBT&E are rooted in sound learning principles that enable active learning. Together, P2P and OBT&E can promote the development of intangible attributes, such as problem-solving and adaptive thinking, in Soldiers who can successfully perform in COIN and FSO. By design, P2P training and OBT&E are key methods for achieving the full spectrum of human capabilities advocated by FSTD.

Background

The Army Reconnaissance Course

At Fort Knox, Kentucky, the Army Reconnaissance Course (ARC) is a specialty program in the vanguard of training transformation. The ARC's purpose is "to prepare commissioned officers and noncommissioned officers (NCOs) to perform effectively as leaders of recon platoons" (Perry & McEnery, 2009, p. 14). The course teaches commissioned officers and NCOs the fundamentals of reconnaissance, surveillance, and security at the platoon level during 27 training days. The graduates of the ARC should be capable of serving as reconnaissance leaders. The course utilizes several training techniques that include discussion, computer-based training, rapid decision-making exercises, virtual gaming, and live training scenarios. The ARC aims to develop adaptive leader qualities, in addition to fundamental tactical and technical skills, in order to fully prepare leaders of reconnaissance platoons for FSO (Perry & McEnery, 2009).

The ARC program was formerly known as the "Scout Leader's Course" with a primary focus on training leaders of scout platoons within Armor and Cavalry units. As an Army-wide program, the ARC has expanded to meet the needs of all Armor, Cavalry, and Infantry units in the Army. This resulted not only in more students trained per year, but in a broadened scope of the training. Previously the course concentrated on developing reconnaissance knowledge and skills in a Cold War setting. However, those knowledge sets and skills are no longer enough to meet the needs of today's Army operating in a complex operational environment. Accordingly, the ARC program expanded the instructional focus to include training of reconnaissance leader attributes. The expanded focus aims to develop adaptable and agile leaders able to identify reconnaissance and security requirements and successfully conduct all phases of mission planning, preparation, execution, and assessment in today's operational environment.

The ARC is designed to meet the demands of current reconnaissance units while bridging the gap between baseline institutional training and higher skill-level expectations required for effective leaders (Perry & McEnery, 2009). Reconnaissance leaders must be able to generalize knowledge beyond branch-specific duties. They are expected to have a greater understanding of

the commander's intent and how to communicate critical information, have better planning and execution skills, be more competent in employing assets, and more confident in mission-related judgment than other Army leaders (Perry & McEnery, 2009). Rather than tailor several training courses to specific platforms, the ARC has refined an extensive range of doctrinal tasks into fundamental skills that can be applied across platforms (Riccio, 2009). The ARC utilizes a mission-driven, problem-solving instructional framework, organized in a building block manner. Skills and attributes are developed throughout each block of training in a challenging operational environment; most learning takes place in the field rather than the classroom. As training progresses, reconnaissance leaders are challenged to apply their emerging competencies to subsequent training exercises in both the classroom and the field. The leader-students are held accountable for their learning and progress in this application-focused course.

The ARC strives to increase students' problem-solving, intangibles (confidence, accountability, initiative, judgment), understanding and awareness, and deliberate thought – thereby improving combat performance (Etheridge, 2009; Riccio, 2009). In short, the course builds reconnaissance leader skills and attributes. Mission-relevant exercises allow instructors to provide feedback on desired outcomes so the reconnaissance leaders come to comprehend why they are carrying out a mission in a particular manner. That comprehension, in turn, increases their understanding and awareness. While accomplishing a mission, reconnaissance leaders must learn which information about terrain and enemy is relevant to the commander's intent. They must also develop the skill set that allows them to effectively communicate this information to their commander. Soldiers are placed in situations where they must develop solutions on their own. Thus, the ARC focuses on "how" to think rather than "what" to think. Reconnaissance leaders learn to engage in deliberate thought when under stress by evaluating the situation, using sound judgment, and then making a decision.

Courses designed to train doctrinal tasks may be evaluated by checking off the completed tasks (Perry & McEnery, 2009). Most traditional assessment tools employ a check-the-box method to indicate meeting a yes-or-no standard (Riccio, 2009). However, intangible attributes such as confidence and initiative, or core competencies such as problem-solving and deliberate thought, are not adequately assessed by checking a box. Rather than relying on a checklist to assess whether a Soldier has met a requirement, assessment should focus on fundamental skills and attributes as continuous variables, not discrete. Instructors need tools to aid them in assessing FSTD outcomes.

The ARC program is currently transitioning from a traditional training model to an approach that emphasizes P2P training and OBT&E. One of the goals in moving to the new approach is to build the attributes that reconnaissance leaders need for FSO. The transition to P2P training and OBT&E methods makes the course an ideal forum for developing innovative methods to facilitate FSTD.

Peer-to-Peer Training

The P2P training principles embody methods designed to share knowledge, skills, and attributes with others. Previous research has shown that P2P training has strong potential for identifying emerging lessons learned and integrating them into Army training (Costanza et al.,

2009). Offering several advantages, P2P training is ideal for adult learners, supports the generation of new knowledge, can complement traditional and nontraditional forms of learning, and accommodates flexible scheduling. Grounded in a sound scientific foundation, P2P training has roots in behavioral, cognitive, and sociocognitive learning theories. In the ARC, P2P training can guide cadre and student interaction while creating an active learning environment.

Recent efforts (e.g., Clark, 2005; Costanza et al., 2009; O'Malley & Townsley, 2006) have supported the adoption of P2P training and a closely related method, guided experiential learning. Traditional instructional methods have been increasingly judged as inadequate to meet the needs of complex training environments in which Soldiers must respond quickly to ever-changing threats and requirements. Soldiers must be able to learn from each other and rapidly apply their new learning.

Dewey first proposed experiential learning in the early 1900's (Clark, 2005), but research has found that the pure form of unstructured experiential learning proposed by Dewey is not a desirable means to acquire new knowledge because it is time-consuming, frustrating to learners, and inefficient, among other drawbacks. A growing body of research, however, does support the utility of P2P training, or guided learning, which structures and tailors the learning experience to the needs of students (e.g., Clark, 2005; Gillies, 2007; Kirschner, Sweller, & Clark, 2006; Mayer, 2004; O'Donnell, 2002).

The research support for P2P training is consistent with behavioral, cognitive, and sociocognitive learning theories (Costanza et al., 2009). Behavioral theory prescribes gradually approximating, or shaping, the desired response until it meets criterion. Cognitive theory directs the organization, or architecture, of learning by helping the learner to associate newly learned material with previously learned material and by facilitating encoding and retrieval processes. Sociocognitve theory emphasizes the effects of the group context and social interaction on learning. Teachers or knowledgeable peers guide the student with questions and structured activities. This social interaction affords the chance to critique student performance and helps keep students engaged in the process. Sociocognitive theory is also consistent with aspects of social interdependence theory, which suggests that socioemotional as well as cognitive benefits can accrue from such training (O'Donnell, 2002). This could benefit cohesion and other desirable processes of team development.

A number of advantages of P2P training have been identified (Costanza et al., 2009), such as suitability for adult learners, development of new knowledge, compatibility with traditional learning methods, and flexibility of scheduling. The research suggests that P2P training is ideally suited for the modern combat environment in that it can be focused on the identification of problems and the generation and evaluation of solutions to problems. Adaptive thinking is essential in today's full spectrum operational environment. According to Woodie (2005), the Army should prepare Soldiers to "unfreeze." This means the learners should become able to change their current beliefs about the way things are done and view situations more objectively. Practical exercises and simulations help the learners translate what they have learned into situated application. Furthermore, Soldiers can learn quickly from other, more experienced Soldiers as well as from instructors. Through P2P training, Soldiers and their teams or units can become self-guided learners.

Several reviews have identified best practices that can be used to clearly conceptualize and implement P2P training. For instance, Sundstrom (1999) described a number of teaching techniques and relevant characteristics of teams. He noted that P2P training promotes students' active involvement in learning and that processing new information at higher levels during discussion helps organize students' experiences and facilitate deeper understanding. Positive interdependence among students links individual success to team success. Group processing, which involves questioning and evaluating decisions, helps promote participation and assessment of the degree to which decisions are consensual. The problem-based nature of P2P training motivates students (Clark, 2005). Clark suggests instructors should structure guided learning so that specific goals are linked to prior knowledge. Careful monitoring and feedback of the learning process occurs so that training can be assessed and revised.

Sundstrom (1999) discussed guidelines for team structure and development. He noted that teams should be relatively small and that roles of team members should be specifically defined. Communication and feedback should be used to keep team members informed about performance. Leaders should help organize group goals and assist team members to take on more responsibility and develop new skills. Further, the base of knowledge and expertise among group members should be considered when forming the team. Less knowledgeable members should be paired with more experienced team members, for example.

Costanza et al., (2009) defined P2P best practices as those that were found to be effective across time and situations. Best practices distilled from reviewing available documentation and interviewing practitioners were used to develop a P2P Training Facilitator's Guide (Costanza et al., 2009). The guide was organized according to three aspects of P2P training – development, delivery, and assessment. Each of these aspects covered a number of the principles of P2P training that were derived from the best practices. Development, for example, included activities that facilitators take when preparing for training, such as identifying measureable training objectives, considering modes of delivery, and selecting group activities to enhance social interaction. Delivery encompassed such things as group size and composition, techniques to enhance participation, the amount of time taken to deliver the sessions, choice of questioning techniques, and consideration of group structure as it relates to interaction. Assessment was used before, during, and after training and included specialized measures employing interviews, surveys, observations, and self-reports.

The final version of the P2P Training Facilitator's Guide was organized along the five basic principles of peer assisted learning (Topping & Ehly, 2001) – organization and structure, cognitive conflict, scaffolding and error management, communication skills, and affect. Each of these principles was linked to sub-principles and specific steps to be taken by facilitators, using a decision tree framework. Each of the steps was keyed to a particular section of the guide. The guide included practical exercises with problem-based scenarios to give facilitators practice in using the guide. Based on a formative evaluation, Costanza et al., (2009) concluded that the guide was a useful product that could be used in future research and development projects.

In summary, P2P training has been shown to be an effective method of training with clear benefits. Researchers and practitioners have successfully translated basic theory and principles of learning and small group interaction into an efficient, practical instructional technology.

Outcomes-Based Training and Education

As an instructional approach, OBT&E focuses on developing intangible attributes, such as confidence, self-awareness, and deliberate thought that every Soldier and leader needs in a rapidly changing environment (Department of the Army, 2008a). Riccio (2009) asserts that OBT&E is not a teaching method, but a framework to guide instructional design. Soldiers "learn for themselves" the skills necessary to complete a mission within an established framework of knowledge. The instructor teaches within the framework by providing topics of conversation for P2P sharing of best practices, and offering the "right" amount of guidance through worked examples and explaining the assumptions behind the solved problems.

Traditional training methods have limited ability to instill intangible attributes required for FSO. For example, failure to understand the reasons for carrying out a mission in a particular manner limits Soldiers' ability to "think on their feet" in a slightly different situation (Ferguson, 2008; Haskins, 2009a). In OBT&E, tasks found in doctrinal publications serve as a foundation on which mastery and excellence are built (Foster, 2009). Officers and NCOs have traditionally relied too heavily on the training process (amount of time spent or ammo used) rather than the results (a competent Soldier). Trainers may often have a "check-the-box" mentality, in which trainees are focused on simply meeting the minimum standards. The task-conditions-standard approach sufficed during the Cold War when the enemy was predictable. However, training approaches that focus on adhering to a set of static rules may suppress initiative, resulting in Soldiers who rely on being told what to do by superiors before they take action (Cornell-d'Echert, 2009). The current operational environment requires adaptive behaviors to deal with an unpredictable enemy. Training that develops skills and education that builds attributes are both essential and OBT&E emphasizes both.

The U.S. Army has recognized the need for new training approaches in order to develop Soldiers who succeed in FSO. As Field Manual (FM) 7-0 states, "Traditional training and education may not meet all the needs of an expeditionary Army … developing a new approach may be necessary to ensure Soldiers and Army civilians are confident in their ability to conduct FSO" (Department of the Army, 2008b, p. 3-2). Training methods often do not represent real-world situations that require problem-solving and initiative, nor is there opportunity for Soldiers to make mistakes and learn from them (Haskins, 2009b). The Army's traditional, input-oriented training methods need to adapt to prepare Soldiers for a full spectrum operational environment (Ferguson, 2008).

There is a need to shift the leader training focus from enforcing standards to teaching effective problem-solving (Haskins, 2009b). In any training environment, it may not be possible to anticipate the types of problems leaders could encounter. Therefore, training leaders how to succeed in almost any situation by developing intangible attributes is important. It is argued that OBT&E is an effective methodology for building intangible attributes. At the U.S. Military Academy (Haskins, 2009b), OBT&E focuses on achieving desired outcomes, such as sound decision-making and judgment. Rather than "checking-the-box" to make sure leaders attain minimum training standards, OBT&E can produce leaders who are motivated to reach a higher level of performance (Tice, 2008). The goal of OBT&E is to achieve competence in a task or skill rather than meet the minimum standard or to reach an "adequate" performance level.

Recognition that skill-based competence requires both cognitive understanding and actual performance is one of the underpinnings of OBT&E (Dennis, 2009). Soldiers have reasonable autonomy during training in order to facilitate becoming competent and confident in their abilities. The OBT&E principles include (a) enhancing problem-solving ability, (b) developing intangible attributes, (c) increasing understanding and awareness, (d) increasing deliberate thought, and (e) improving combat performance. The OBT&E approach teaches the basics, but also focuses on mastery and full understanding of basic skill sets, resulting in Soldiers who can improvise and adapt their knowledge to solve problems in varied situations (Connolly, 2008; Ferguson, 2008). A "crawl, walk, run" approach enables Soldiers to develop confidence and other intangible attributes (Connolly, 2008).

The use of real world exercises that guide Soldiers to focus on the "why" rather than merely the "what" and "how" differentiates OBT&E from traditional training methods. Also, OBT&E trainers "coach" rather than "direct," and they "develop" rather than "instruct" (Cornell-d'Echert, 2009). Other characteristics of OBT&E include ensuring teachers fully explain concepts to Soldiers, creating an environment where making mistakes is acceptable, and providing constant feedback to Soldiers about their actions. Training facilitators use Socratic questioning to prompt Soldiers to clarify what they are already thinking about or to think more analytically so they can work out the problem. Socratic questioning can also serve to investigate assumptions, rationale for arguments, consequences or implications of an action, and alternative viewpoints (Straker, 2009). Examples of Socratic questions include: "Are these reasons good enough?" "What evidence do you have to support this assumption?" "How could you look at it another way?" And, "What would happen if…?" The following is an example application of OBT&E principles from the Fires Center of Excellence at Fort Sill.

> "When zeroing a M16 rifle, a Soldier would typically fire at a paper target from a 25-meter range. The targets include standard written instructions that a Soldier can read to tell him how many clicks left or right to move for the optimal firing position. A Soldier may adjust his/her position according to the instructions without understanding why. In an OBT&E approach, Soldiers learn about angular deviation and 'the function of the weapon's front sight post and what fraction of a MOA [minutes of angle] each click, left or right, actually represents'" (Dennis, 2009, p.33).

In this example, the knowledge gained from OBT&E training enables Soldiers to use direct visual feedback to fine-tune the zeroing of the weapon on their own (i.e., solve a simple problem).

The results of using OBT&E as a training method include Soldiers who teach themselves, solve problems based on knowledge and principles, and possess tangible skills as well as intangible attributes. Although an intangible attribute cannot be physically measured, the behavior that intangibles are likely to influence can be measured (Marceau, Diedrich & Riccio, 2008). It is important to continually assess the OBT&E process during training. Continuous assessment provides feedback on Soldiers' progress on achieving the desired outcome and shapes how the teacher will adjust training, if needed (Haskins, 2009b).

Examples of successful application of OBT&E in current training environments include West Point's MS300 curriculum in the Department of Military Instruction, the Armor School's ARC, and the Combat Applications Training Course (CATC) (Cornell-d'Echert, 2009). The CATC demonstrates OBT&E methodology using rifle marksmanship tasks to lead Soldiers in building intangible attributes such as confidence and motivation (Connolly, 2008). Using an outcome-based mindset, in conjunction with marksmanship training, gives Soldiers greater understanding of how and why their weapon works as it does and instills confidence when using their weapon in an unpredictable situation (Ferguson, 2008).

In addition to building basic competence, the OBT&E approach also creates opportunities for Soldiers to use what they have learned with reasonable autonomy and flexibility in a practical training situation (Department of the Army, 2009b). This training approach results in the ability to apply knowledge and skills to varied operational environments. Instructors should reinforce why tasks are carried out a certain way to support overall mission success. Rather than the instructor telling Soldiers what to do, the OBT&E approach guides Soldiers to a solution using problem-solving strategies. This action provides Soldiers with a sense of ownership and empowerment. Throughout training, instructors create opportunities for Soldiers to develop a sense of accountability by assuming responsibility for their actions.

Based on the foregoing discussion, the major features and characteristics of OBT&E are summarized as follows:

- OBT&E is a method of force preparation that seeks to merge the benefits of training and education to create thinking leaders who know what to do in the complex environment of FSO.
- The guiding principles of OBT&E are to grow problem-solving, increase intangibles, boost understanding and awareness, increase deliberate thought, and improve combat performance.
- Intangible attributes—including confidence, accountability and initiative—underpin Soldier development and operational performance.
- The desired outcomes for OBT&E are Soldiers, leaders, and units who know how to teach themselves. They solve problems as individuals and teams using knowledge and principles. They are empowered by their mastery of tangible skills and their intangible attributes.
- The basic themes of OBT&E stress understanding and mastery of basic skills, development of intangible Soldier attributes, and ability to relate tasks, skills, and attributes to mission objectives.
- OBT&E training emphasizes the total outcome of a task and training event, rather than the execution of a particular task to a standard under a given set of conditions.

Because training agile and adaptive leaders is critical for Army reconnaissance units, applying OBT&E to the ARC is especially warranted. The transformed program stresses (a) mastery of fundamental reconnaissance skills so leaders can improvise and adapt knowledge in varied situations, (b) training through mission relevant exercises that focus on developing intangible attributes, and (c) encouraging thinking in terms of missions and problem-solving by developing the ability to relate knowledge and skills to other tasks.

Research Objectives

The research described in this report was performed as collaboration between the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) and the ARC cadre at Fort Knox. The project aimed to develop innovative methods to enhance the ARC instructional process by creating practical materials to help the cadre ensure the achievement of desired course outcomes. There is a clear need for innovative methods because a core component of FSTD is the development and assessment of key attributes (confidence, initiative, judgment, accountability, etc.). Traditional methods of instruction and assessment are largely ill-equipped to address such intangibles. The following research objectives guided the work:

- Observe and coordinate with ongoing efforts to apply P2P training to ARC activities.
- Develop P2P-type training methods to improve the ability of ARC instructors to model and assess reconnaissance leader attributes and skills.
- Conduct formative evaluation of P2P training and measurement methods by implementing them operationally and gathering evaluative feedback.
- Package the P2P training and assessment methods in an instructor-friendly guide.
- Document the results of the research.

This report describes the methods used to accomplish the research objectives as well as the results of the formative evaluation efforts. A companion publication (Cooper, Leibrecht, & Lickteig, in preparation) presents the Instructor's P2P Learning Guide for the ARC that resulted from the development of P2P training and assessment materials for the ARC environment.

Method

The purpose of this research was to develop and evaluate an approach to Soldier preparation focused on realizing the skills and attributes needed for reconnaissance leaders in FSO. To that end, the research team developed a guide to assist ARC instructors in achieving course goals by incorporating P2P training principles. The approach was to indentify the core outcomes of the ARC and identify opportunities where P2P training principles could be applied to achieve those goals. The research began with a literature review of the best practices from industry, academia, and the military. Educational materials, procedural guidelines, and job aids were developed based upon the literature review and observational data collected during pilot courses. The resulting guide underwent operational implementation and multiple-stage, multi-source formative evaluation.

Literature Review

The literature review was performed to support the development of an ARC instructor's guide for conducting P2P training. The goal of the review was to find P2P methods suitable for the ARC program to assist instructors in training and measuring student outcomes. The review identified best practices for P2P learning, best practices in OBT&E training, and assessment techniques for intangible attributes and learning outcomes. The relevance of source materials was determined by the researchers according to how well each reference supported the goals of ARC, P2P training, OBT&E, and construction of the instructor's guide. Articles and books were

selected from academic, industry, and military sources based on the relevance to FSTD, P2P, and OBT&E. Materials were screened based on their citation rates and scientific rigor. Articles with higher citation rates were chosen over articles with low citation rates (as obtained through GALILEO, the search engine of the University System of Georgia). Books and articles that provided or cited empirical evidence and meta-analyses were chosen over non-empirical items.

The literature review yielded P2P and OBT&E learning principles, best practices for training and assessment, practical techniques, theoretical considerations, and enabling factors. The results fed the design and development of the instructor's P2P learning guide. The more notable findings were integrated into the Background section of the preceding chapter.

Development of the Guide

Interviews with OBT&E advisors, ARC leaders and instructors, and research team experts occurred prior to, during, and following multiple ARC cycles. The interview data helped identify practical needs of the ARC cadre. They also helped tailor parts of the guide to the ARC program, especially the definition of reconnaissance leader skills and attributes and the assessment materials.

To set the stage for designing and developing an instructor's guide, observations of ARC activities were conducted. Based on the literature review, an observation protocol was constructed. Observational data were gathered from multiple sources. Researchers shadowed and interviewed ARC instructors during multiple field exercises throughout several ARC cycles. Researchers also observed classroom sessions. The observational data helped the developers of the guide identify opportunities for P2P training-based instruction in the ARC as well as threats to learning.

Based on an informal needs analysis, development of materials for the guide centered on empowering cadre members to foster reconnaissance leader skills and attributes. Topics were selected and materials were developed according to the ARC instructional objectives and outcomes, P2P training best practices, and OBT&E principles. The P2P learning model for the ARC was structured in three phases – plan/prepare, execute, and assess (see Figure 1) – which mirror the develop-deliver-assess structure of the P2P training model (Costanza et al., 2009). Development of the P2P training materials drew on multiple sources of information including the literature review findings, interviews with key ARC personnel, information gathered from conferences and workshops, and field observations during ARC pilot courses. The development process followed an iterative draft-review-revise cycle.

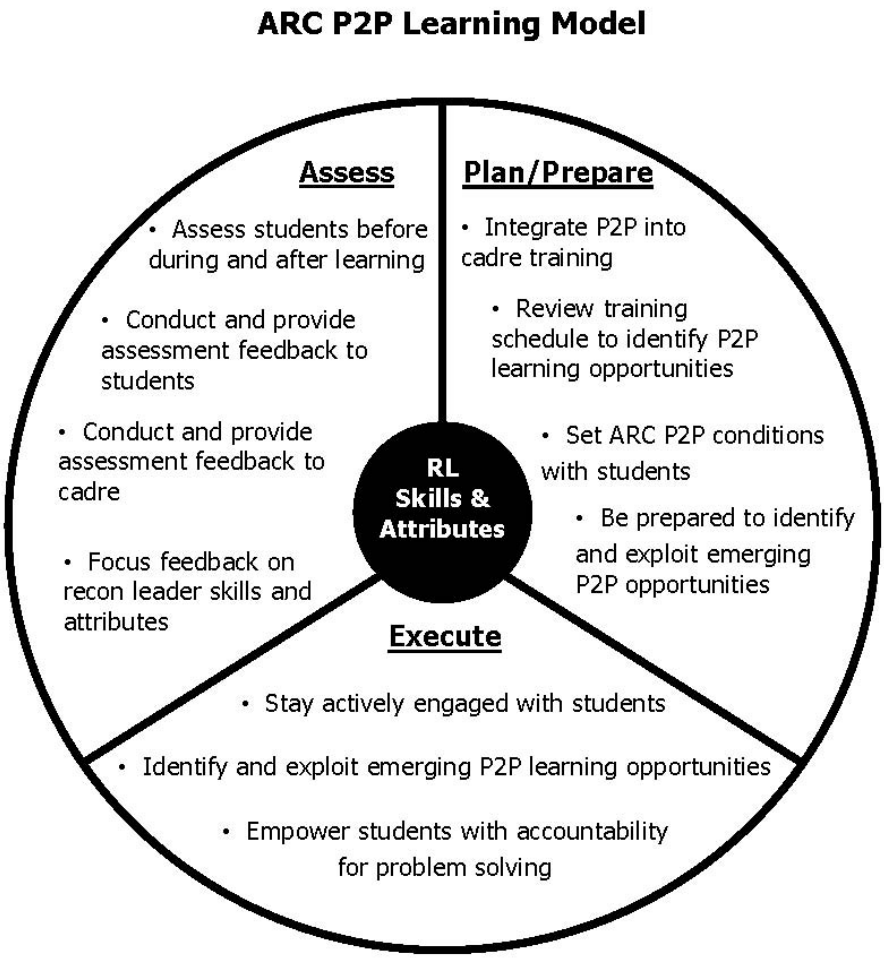

Figure 1. Three-stage P2P learning model (from Instructor's Guide).

The ARC program goals and structure served as key anchors for developing the guide. All materials were developed with a focus on guidelines and tools to build reconnaissance leader skills and attributes. Graduates of the ARC are expected to demonstrate an observably higher level of proficiency on the reconnaissance skill set. They should exhibit a deeper understanding of the commander's intent and information requirements. They should be more competent problem solvers and display critical leadership attributes. Figure 2 shows the reconnaissance leader skills and attributes as they ultimately appeared in the Instructor's Guide.

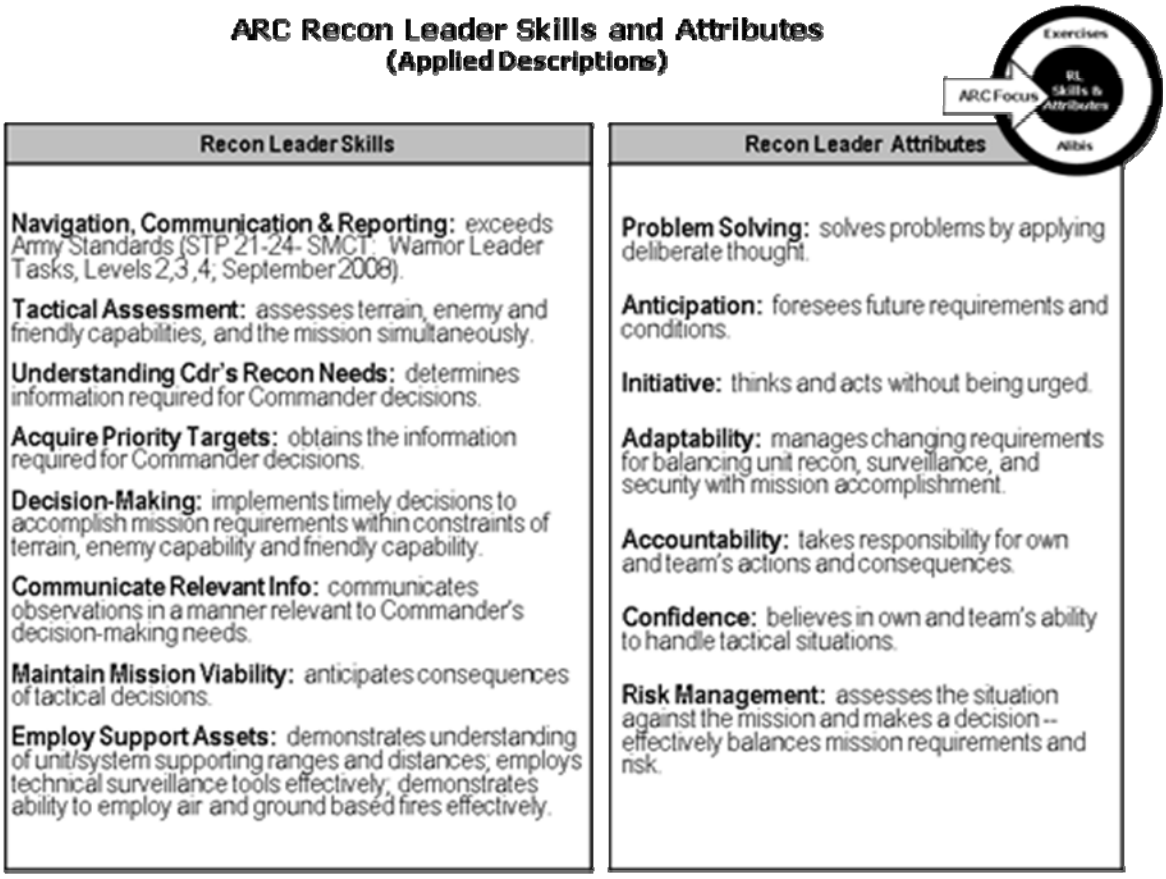

Figure 2. Definitions of recon leader skills and attributes (from Instructor's Guide).

Because ARC training utilizes OBT&E principles, the guide was developed to assist instructors in applying those principles. The OBT&E principles break away from traditional instructor-student roles – instructors guide rather than direct the students. The principles rely heavily on the Socratic and P2P methods of instruction where instructors ask leading questions to allow students to explore and identify the solutions. Students share knowledge and work together to produce solutions. Since this method of instruction is markedly different from the minimum standards "check-the-box" approach the Army has typically used, the guide was shaped to clarify unique aspects of OBT&E training.

A significant contribution toward assisting instructors with implementing OBT&E methods was the inclusion of P2P training principles. The P2P training focus on peer-assisted learning was consistent with the first principle of OBT&E that calls for training to grow problem-solving by teaching Soldiers to "learn for themselves." Paralleling this was an emphasis on the acquisition of knowledge, skills and attributes through active sharing, helping and supporting among equals. Thus, P2P training principles provided a seamless transition between the principles of OBT&E and sound instructorship. The P2P training was intended to enable students to learn quickly and readily from instructors and other students who have gained experience and insight in conducting FSO. Previous research has indicated that P2P training occurs best when facilitated, with novices guided through a complex task by a facilitator who models the processes and behaviors of effective learning (Costanza et al., 2009).

The P2P training principles were incorporated throughout the guide, including its job aids. For example, Figure 3 shows a job aid that provides examples to help instructors recognize P2P training opportunities. The job aids contained in the Instructor's Guide also include forms to guide and assist instructors in assessing and recording skill and attribute development among students (see Figures 4 and 5). This fulfilled the TRADOC requirement that instruction must be assessed (Department of the Army, 2009a). The latter job aids structure assessment without limiting the process to a minimum standards "check-the-box" approach. The growth of reconnaissance leader skills and attributes can be monitored throughout the course to provide students with specific feedback.

Recognizing P2P Training Opportunities Job Aid J-1

P2P opportunities in ARC are dynamic. Recognizing a P2P opportunity requires the instructor to continuously monitor the student situation for potential learning shortfalls. Below are examples of "trigger" conditions indicating likely P2P learning opportunities.

<< If something is not right – get involved >>

Opportunities for Instructor Guidance	
Recon Leader Skills	**Recon Leader Attributes**
• Do reports ignore CCIR? • Are reports unusable by higher headquarters? • Is the unit at risk for compromise? • Has the unit lost freedom of maneuver? • Are survivability measures inadequate? • Are advanced land navigation skills missing? • Is the student overcome by psychological or physical requirements? • Are asset capabilities being under-utilized? • Is local security being compromised? • Does the student fail to demonstrate skills necessary for mission success?	• Do student actions indicate a lapse in deliberate thinking (evaluation, judgment, decision)? • Do students display a lack of supporting knowledge? • Do students fail to demonstrate critical attributes like confidence, accountability, initiative, judgment, and awareness? • Are students disagreeing or arguing strongly? • Are one or two students overpowering the rest? • Do students seem confused or disoriented? • Have some students become silent or disinterested? • Are students maintaining 100M IPB awareness?

Figure 3. Job aid for recognizing P2P training opportunities (from Instructor's Guide).

Job Aid J-6.1

Student Assessment (1 of 3)
(Instructor's Rating of Student Skills)

Recon Leader Skills	Scale Value 1 - Indicators	Assessment* (circle one)	Scale Value 5 - Indicators
Navigation	Never meets Army standards	1 2 3 4 5	Always exceeds Army standards
Communication & Reporting	Never meets Army standards	1 2 3 4 5	Always exceeds Army standards
Tactical Assessment	Never adjusts for terrain, enemy/friendly capabilities	1 2 3 4 5	Always incorporates terrain, enemy/friendly capabilities
Understanding Cdr's Recon Needs	Never identifies Cdr's unique recon needs	1 2 3 4 5	Always identifies Cdr's unique recon needs
Acquiring Priority Targets	Never acquires BCT priority targets	1 2 3 4 5	Always acquires BCT priority targets
Decision-Making	Never makes sound decisions in timely manner	1 2 3 4 5	Always makes sound decisions in timely manner
Communicating Relevant Info	Never reports info critical to Cdr's decision-making	1 2 3 4 5	Always reports info critical to Cdr's decision-making
Maintaining Mission Viability	Never anticipates presence or contact with enemy	1 2 3 4 5	Always anticipates presence or contact with enemy
Employing Support Assets	Never employs supporting assets	1 2 3 4 5	Always employs supporting assets appropriately

Instructions:
- Quantify the student's performance by circling a rating value (1-5) for each recon leader skill.
- Discuss steps to improve within each area of assessment in the future.

*** Rating Scale:**
1 – *Minimal:* Shows minimal level expected of a novice
2 – *Moderate:* Shows moderate level expected of a beginning leader
3 – *Average:* Meets Army standards
4 – *Superior:* Shows superior level expected of a seasoned leader
5 – *Exceptional:* Shows exceptional level expected of a recon leader

Figure 4. Instructor's form for rating student skills (from Instructor's Guide).

Job Aid J-6.2

Student Assessment (2 of 3)
(Instructor's Rating of Student Attributes)

Recon Leader Attributes	Scale Value 1 - Indicators	Assessment*	Scale Value 5 - Indicators
Problem Solving	Overlooks opportunities to identify and solve problems	1 2 3 4 5	Leads team through problem ID, idea generation, decision-making, and feedback
Anticipation	Is surprised by how events unfolded	1 2 3 4 5	Anticipates and is prepared for what's next
Initiative	Asks the instructor what to do	1 2 3 4 5	Seeks solutions and solves problems in-stride using all available assets
Adaptability	Changing conditions cause mission failure	1 2 3 4 5	Adapts to changing conditions without mission degradation
Accountability	Spends majority of time performing tasks not essential to the mission	1 2 3 4 5	Identifies and works on tasks essential to the mission
Confidence	Does not interact with other students	1 2 3 4 5	Actively participates throughout training - shares recon skills and experiences
Risk Management	Never balances mission requirements with risk	1 2 3 4 5	Always balances mission requirements and risk

Instructions:
- Quantify the student's performance by circling a rating value (1-5) for each recon leader attribute.
- Discuss steps to improve within each area of assessment in the future.

*** Rating Scale:**
1 – *Minimal:* Shows minimal level expected of a novice
2 – *Moderate:* Shows moderate level expected of a beginning leader
3 – *Average:* Meets Army standards
4 – *Superior:* Shows superior level expected of a seasoned leader
5 – *Exceptional:* Shows exceptional level expected of a recon leader

Figure 5. Instructor's form for rating student attributes (from Instructor's Guide).

As the training and assessment materials emerged, the researchers and cadre leaders designed the structure and format for the Instructor's Guide itself. Based on the ARC learning environment, the stakeholders designed the guide to serve as an easy-to-use resource for self-study and application. Primary design criteria included (a) minimum essential contents, (b) balanced mix of self-development and job aid items, (c) embedded motivation, (d) streamlined presentation of contents, (e) liberal use of charts and graphics, (f) Soldier-friendly packaging, (g) stand-alone capability, and (h) ready portability. Analysis and sorting of the instructors' information requirements resulted in ten major sections of the guide (topics) as seen in Figure 6. In addition, a front-end P2P utilization scenario was included to illustrate how the guide could be employed in a tactical context.

The topics addressed in the guide fell into three categories: educational information (e.g., P2P training basics), procedural guidelines (steps and techniques), and job aids containing how-to details. The final topics (see Figure 6) were those found to contribute directly to the performance of ARC instructional duties. The limited scope of the contents was designed to ensure a level of detail suitable for rapidly assimilating the information.

This Guide Contains …

Topic	What's Inside	Page #
Guide Purpose	How this guide supports ARC instructors	4
P2P Training Basics	What is P2P, its role in OBTE, how it works	5
ARC P2P Learning Process	Plan/Prepare – Execute – Assess model of learning	6
P2P Best Practices	ARC instructor best practices for employing P2P	7
Setting P2P Conditions	Shaping the environment for P2P learning	8
Recon Leader Skills and Attributes	Definitions and Descriptions	9
P2P Training Techniques	Suggested techniques for collaborative learning	10
P2P Assessment Guidelines	Best practices, assessment techniques, timing	11
P2P Assessment Techniques	Suggested steps for each assessment technique	12
Job Aids for Instructors	Recognizing P2P Training Opportunities (J-1)	13
	Using Guiding Questions (J-2)	14
	Exploiting P2P Potential (J-3)	15
	Using Empowering Statements (J-4)	21
	Deterring Threats to Training (J-5)	22
	Student Assessments (J-6)	23
	Instructor Assessment (J-7)	26
	Hotwash/AAR Guide (J-8)	27

Figure 6. Major sections of Instructor's Guide.

Formative Evaluation

The goal of the formative evaluation was to obtain user feedback based on operational use of the guide. The evaluation strategy employed an implement-assess-refine cycle to create recurring feedback opportunities. The evaluation helped ensure the guide and its job aids were acceptable, suitable, usable, and valuable to leaders and instructors of the ARC program.

Formative Evaluation Events

Formative evaluation occurred in three broadly defined stages. During the first stage, the guide was extensively vetted prior to field testing in available ARC cycles. The vetting method employed an iterative process using multiple reviewers, each providing feedback on multiple occasions. The review process included a multi-source formative evaluation, with reviews being elicited from personnel on all levels of program involvement.

Academic experts first reviewed the guide, including the job aids. Scientists within ARI vetted the guide next, followed by the course designer, course leaders, and instructors. The guide was vetted to ensure sound learning principles and outcome assessments were effectively

incorporated, and that the guide matched the goals and outcomes of the ARC. In addition, feedback was solicited on which sections could be clarified, expanded, reduced, or deleted. The vetting procedure was performed in multiple cycles, with each group given multiple opportunities to evaluate the guide.

In stage two, initial field testing of the guide occurred during an ARC pilot course. During the remainder of this report, this stage will be referred to as the first evaluation. As part of the first evaluation, course designers, course leaders, and instructors were interviewed prior to, during, and after the pilot course and asked to provide evaluative feedback. After the pilot course ended, the guide was revised based upon the feedback.

During stage three of the formative evaluation, the final field testing of the guide took place during a second ARC cycle, following the same method and procedures used in stage two. This final stage will be referred to as the second evaluation.

Participants

Participants included course designers, course leaders, and instructors. Course leaders and instructors were interviewed during the material development, and they also provided survey feedback based on their use of the guide during the first and second evaluations. A total of 19 respondents (18 instructors, 1 course leader) provided feedback during the first evaluation and 20 respondents (19 instructors, 1 course leader) during the second evaluation.

Data Collection Materials

The research team constructed several data collection instruments for the formative evaluation. These instruments incorporated a combination of qualitative data (written and verbal comments) and quantitative data. The data collection materials included:

- Observation Guide (see Appendix B).
- ARC Instructor Feedback Questionnaire (see Appendix C).
- ARC Leader Feedback Questionnaire (see Appendix D).
- Query Guide – End-of-Block Feedback Session (see Appendix E).

Procedure

Individual interviews were conducted with course leaders and instructors prior to, during, and following courses. At the end of each course, questionnaire data were collected from the participants as a group. Respondents sat at individual desks and completed the appropriate feedback questionnaire according to their role. Following the written feedback, a facilitator elicited verbal feedback from the respondents using the query guide to structure the discussion.

Results and Discussion

In the formative evaluation of the guide, the ARC cadre's feedback served as the primary data and provided valuable information to direct refinement efforts. The feedback gathered during each stage of the evaluation was generally positive. Comments and suggestions for revisions were generally minor and were incorporated into the guide following each stage of evaluation. The results will be organized according to four broad categories: acceptability of the guide, utility of the guide, suggested improvements to the guide, and lessons learned.

Acceptability of the Guide

Components of the Instructor's Guide were evaluated through two sets of questions addressing acceptability: (a) clarity of the educational and guideline materials and (b) clarity and suitability of the job aids. Each set of questions contained between 14 and 18 statements about specific aspects of each part of the guide. Instructors and course leaders responded using 5-point scales (1-Strongly Disagree to 5-Strongly Agree), with higher scores indicating more positive ratings unless otherwise noted.

The educational and guideline materials of the guide comprised nine pages addressing how to use the guide, reconnaissance leadership skills and attributes, and P2P training best practices and techniques to support training and assessment. The clarity of these materials was evaluated through eight written statements (first evaluation) and nine written statements (second evaluation) addressing the various components of the materials. Representative statements are provided below (see Appendices C and D for the complete set of statements).

- I found the Utilization Scenario clear.
- I found the P2P Training Basics section clear.
- I found the P2P Training Techniques section clear.

Overall the clarity ratings for the educational and guideline materials were positive from the first and second evaluations with the average rating across all items being $M = 4.08$ ($SD = .60$), and $M = 3.94$ ($SD = .56$), respectively; the median response was 4-Agree for both courses. As shown in Figure 7, none of the respondents indicated that they disagreed with any of the statements, while a strong majority (> 80%) responded that they Agreed or Strongly Agreed with the statements.

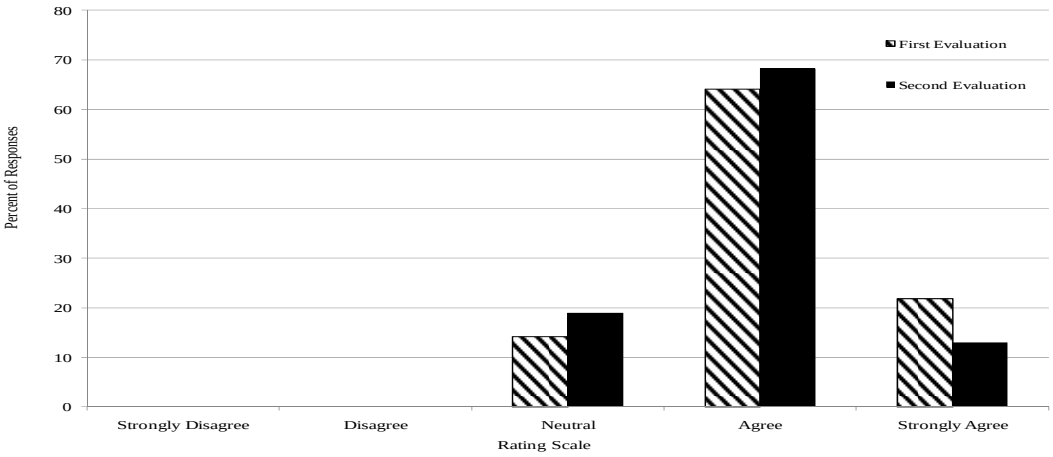

Figure 7. Response distributions for evaluating the clarity of the Instructor's Guide (minus job aids).

After completing the Likert-scale items, the respondents were asked to provide written comments. Only one instructor offered feedback during the first evaluation suggesting that the materials should be broken into two parts, "a job aid and a user guide." During the second evaluation one course leader commented, "All of the parts are very useful."

The guide contained 15 pages of job aids designed to assist instructors in indentifying opportunities to implement P2P training, indentify threats to training, and assessing progress. The clarity of the job aids were evaluated through eight written statements during the evaluations. Sample statements appear below (see Appendices C and D for the complete set of statements).

- I found Recognizing P2P Training Opportunities clear.
- I found Using Empowering Statements clear.
- I found Using Guiding Questions clear.

Across the board, the job aid clarity ratings were positive from the first and second evaluations, with the average rating across all items being $M = 4.20$ ($SD = .58$) and $M = 4.05$ ($SD = .75$), respectively. The median response was 4-Agree for both evaluations. As seen in Figure 8, no participant indicated that he disagreed with any of the statements, and a vast majority (> 75%) responded that they Agreed or Strongly Agreed with the statements.

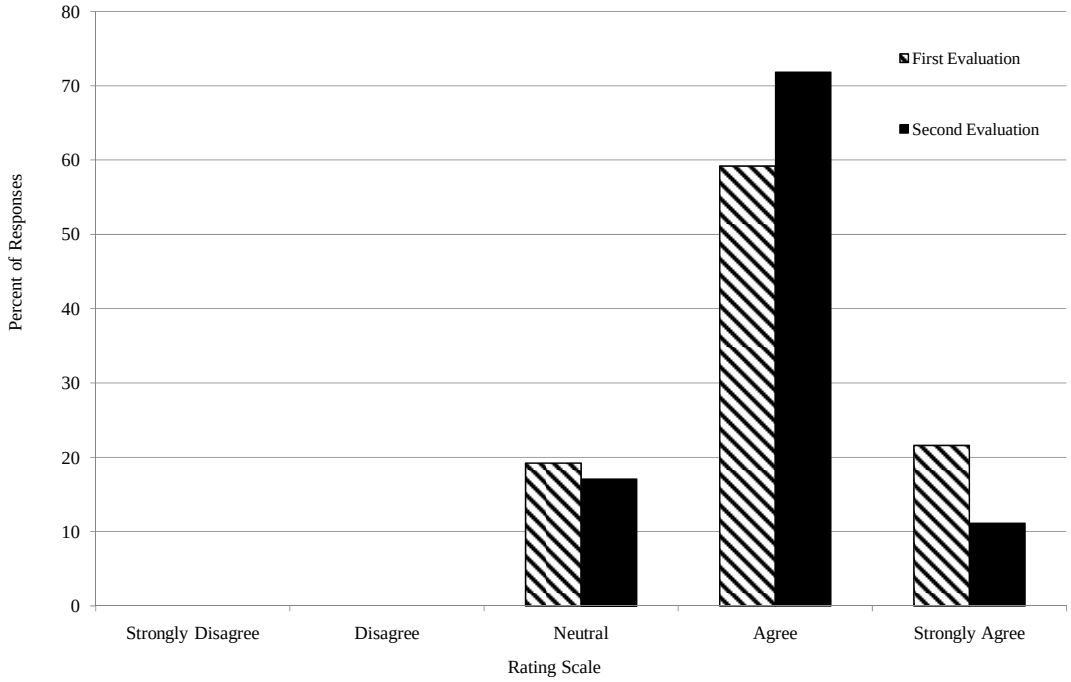

Figure 8. Response distributions for evaluating clarity of job aids.

The suitability of the job aids were evaluated through 14 written statements during both evaluations. Representative statements are provided below (see Appendices C and D for the complete set of statements).

- The Assessment of Student job aids measure the right skills.
- The Assessment of Student job aids measure the right attributes.
- The Assessment of Student job aids can be used in the classroom.
- The Assessment of Instructor job aid can be used at the end of a block of instruction.

On the whole, the job aid suitability ratings were positive during the first and second evaluations, averaging 3.98 (*SD* = .94) and 3.95 (*SD* = .72), respectively, with a median of 4-Agree for both courses. As Figure 9 shows, respondents indicated that they Disagreed or Strongly Disagreed with some of the statements. However, it is important to note the items receiving these scores were reverse-scored items. That is, lower scores reflect a more positive rating. The two reverse-scored statements were "The Assessment of Student Job aids take too long to implement" and "The Assessment of Instructor job aids takes too long to implement." All of the Strongly Disagree and Disagree responses were for these two items.

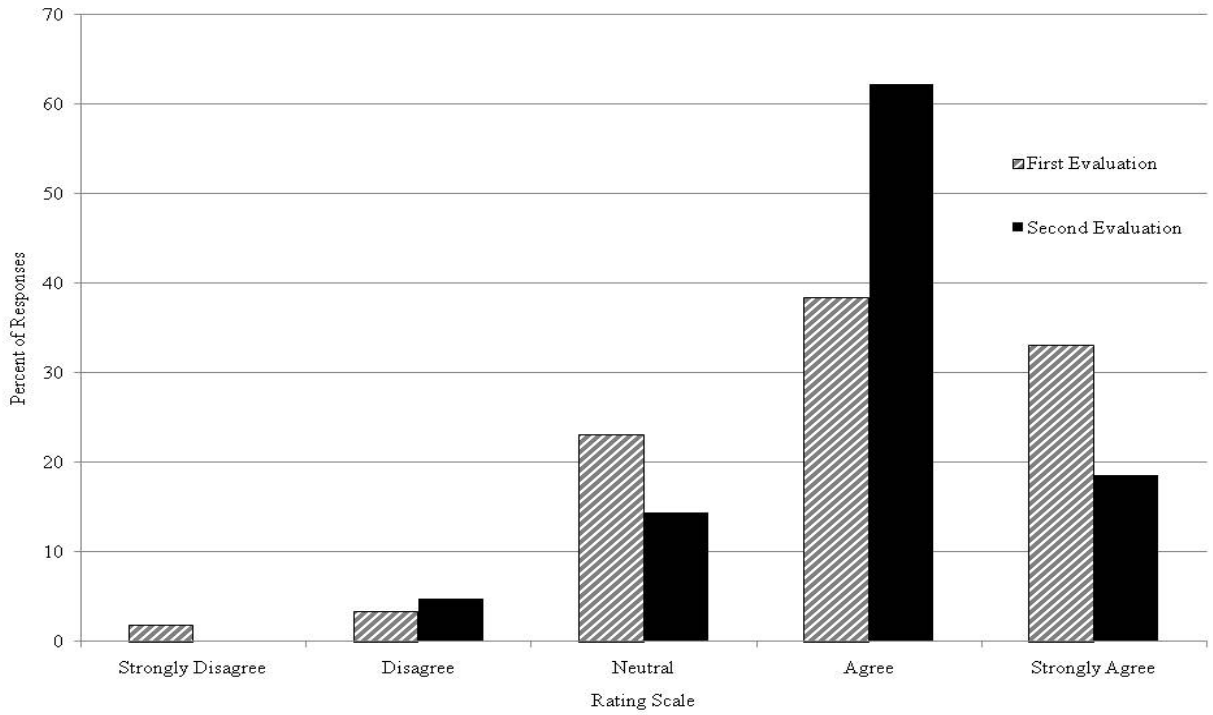

Figure 9. Response distributions for evaluating suitability of job aids.

Once again, comments were few but informative. Two comments were provided during the first evaluation, "My disagreement comes from the observation that intangibles that the ARC has outlined don't appear to be addressed. Apples and oranges," and "Make it smaller." No comments were provided during the second evaluation.

Utility of the Guide

The utility of the guide was evaluated across several dimensions. Ratings and written and verbal feedback were used to assess the time requirements and frequency of guide use. Ratings and feedback were also collected on the perceived usefulness of the guide. Finally, queries examined the degree to which the guide was perceived to meet the needs of the course.

There was a fair amount of instructor turnover within and between each course. About 40% of the instructors were in their first cycle or indicated that they had been an instructor for less than six months. The turnover rate and instructor training affected instructors' use of the guide. Following the first course, approximately 25% of the respondents indicated they were not completely familiarized with the guide, while following the second course, approximately 36% of the respondents indicated that they did not familiarize themselves with the latest version of the guide. The most frequent reason cited was being new to the course and busy learning course material or still training to become an instructor.

The time spent studying the guide was examined in the second evaluation. Instructors reported the amount of time they spent studying the guide averaged 1 hour and 45 minutes. Instructors indicated the amount of time spent using the guide was reasonable.

Of the instructors who responded to the question, the most frequently cited uses of the guide across both courses were self-study and preparation for training (see Table 1).

Table 1

Self-Reported Usage of Instructor's Guide, by Application

Application	First Evaluation	Second Evaluation
Self-Study	68.75%	54.54%
Preparation for Training	50.00%	54.54%
Execution of Training	25.00%	36.36%
Assessment of Students	43.75%	27.27%

Although differences emerged in the reported frequency of use according to application, comments from those instructors who used it across all applications indicated its usefulness in all areas. For example, "Everyone needs to use this and not just for the designated leader. But for all the students in the course – all the time." Comments from course leaders also indicated its usefulness, as the following illustrates:

> "I used it to guide my assessment of instructors. From Course Leader's position, this guide keeps me centered on course outcomes. I am able to judge and assess instructors as they teach students. Holding this guide in my hand, I can observe and assess the instructor in terms of outcomes and P2P learning. This guide nudges and pushes me to ensure instructors are teaching IAW POI [in accordance with the program of instruction] to grow adaptable, flexible leaders."

The usefulness of the guide's educational and guideline materials was evaluated through eight written statements (first evaluation) and nine written statements (second evaluation) which examined various aspects of the materials. Sample statements appear below (see Appendices C and D for the complete set of statements).

- I found the Utilization Scenario useful.
- I found the P2P Training Basics section useful.
- I found the P2P Training Techniques section useful.

Overall the usefulness ratings for the educational and guideline materials were positive in both the first and second evaluations, the average rating across all items being $M = 4.02$ ($SD = .64$), and $M = 3.94$ ($SD = .53$), respectively; median response was 4-Agree for both evaluations. As Figure 10 shows, no participants indicated that they disagreed with any of the statements, while a strong majority (> 80%) Agreed or Strongly Agreed with the statements.

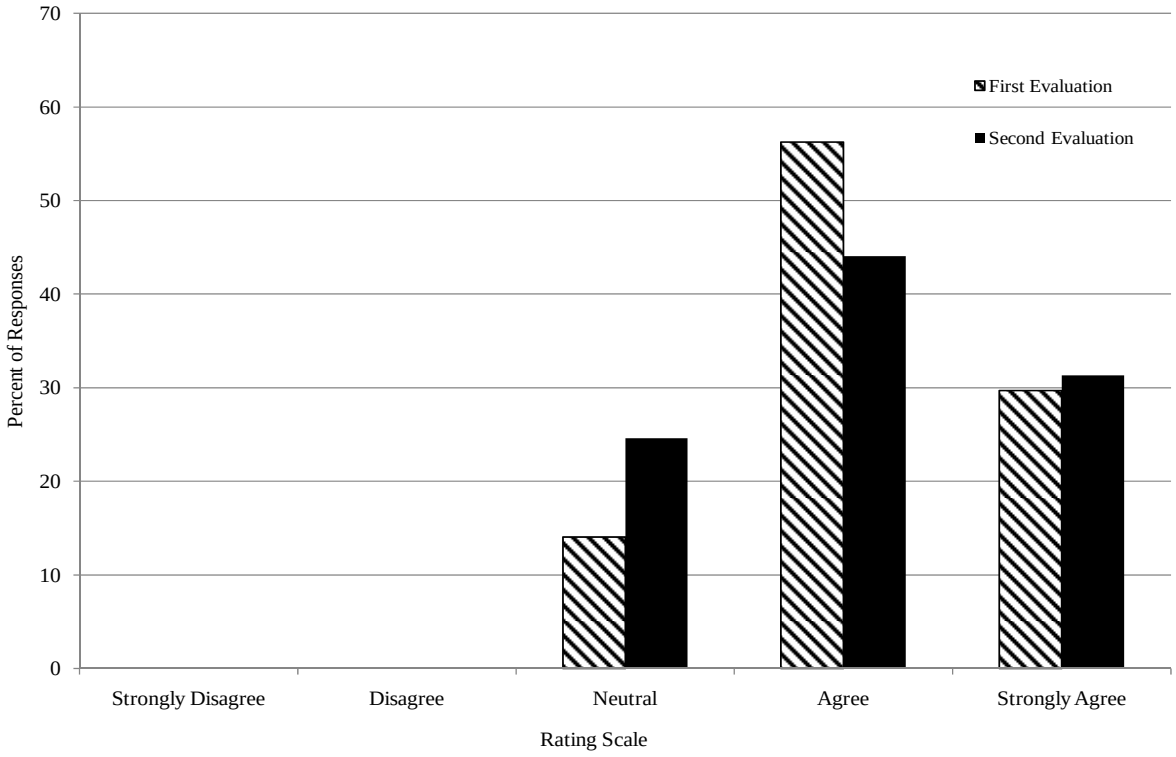

Figure 10. Response distributions for evaluating usefulness of Instructor's Guide (minus job aids).

The usefulness of the job aids was evaluated through eight written statements during both evaluations. Sample statements are provided below (see Appendices C and D for the complete set of statements).

- I found Recognizing P2P Training Opportunities useful.
- I found Exploiting P2P Potential useful.
- I found Using Guiding Questions useful.

Taken as a whole, the job aid usefulness ratings were positive in both evaluations, with the average rating across all items being $M = 4.16$ ($SD = .65$) and $M = 4.07$ ($SD = .75$), respectively. The median response was 4-Agree for both evaluations. As seen in Figure 11, no respondents indicated that they disagreed with any of the statements, and the majority (> 75%) responded that they Agreed or Strongly Agreed with the statements. Only one comment was provided during each evaluation regarding the usefulness of the job aids. Both comments were very positive; one of the course leaders stated, "I love the job aids," and "This is my favorite part."

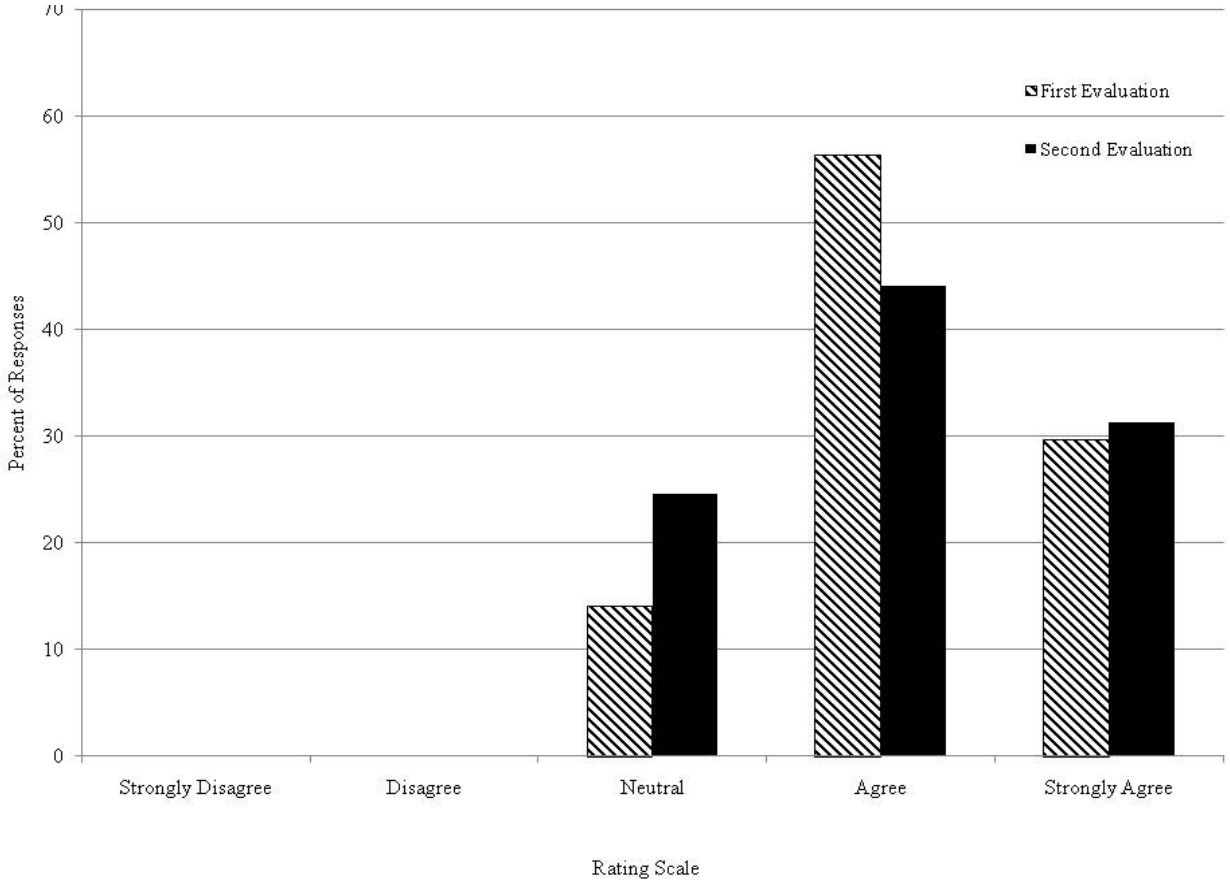

Figure 11. Response distributions for evaluating usefulness of job aids.

Ease of use was explored by soliciting participant comments concerning problems they encountered in understanding or using the guide. Very few problems were reported. During the first evaluation a couple of instructors commented that the only problem they had was finding the time/opportunities to employ it. One other instructor commented that he found the 8.5 by 11 inch size (landscape layout) difficult to use in the field and suggested the research team develop a version of the guide printable on smaller paper to allow instructors to carry it in their pockets. This led to production of a 4.5 by 5.7 inch version (landscape layout) for the second evaluation. During the second evaluation, one instructor commented that he forgot to use the guide several times when he could/should have, and one commented that the guide was too small.

Generally, the comments conveyed the impression that the materials fulfilled the needs of the course. Comments from the first evaluation indicated that instructors and course leaders found the materials provided good materials for understanding OBT&E, guidance for instructors, and assessment tools for students and instructors. Comments from the second evaluation echoed the positive responses received during the first evaluation. Some representative comments:

- "Easy to reference before, during, or after training to focus your effort."
- "As a new hire just beginning to familiarize myself with the OBT&E process, the guide offers a breakdown and examples of the process for easy understanding and implementation."

- "I am new to OBT&E, but the guide helped me substantially because it helped me ask the right questions and allowed me to steer students in the right direction."
- "It makes for highly effective, professional instruction."

Suggested Improvements to the Guide

The participants offered occasional ideas for improving the guide. The areas identified for improvement during the first evaluation were the format and the relative fit with OBT&E principles. In the same evaluation the most commonly cited obstacle to using the guide was its size (height and width). Several instructors stated they would like a pocket-sized guide to use in the field. Based upon this feedback a pocket-sized version was produced for the second course. While receiving positive feedback from most instructors, some requested that the pocket-sized guide be slightly larger, while others suggested that it should be slightly smaller. A waterproof/ laminated version was also requested, because "instructors spend extensive time in the field" where conditions are rugged.

One of the instructors noted during the first evaluation that the ARC intangibles "…don't appear to be addressed" in the guide. The first version of the guide had included the initial set of intangibles developed for the ARC's transition to the OBT&E method. However, these had been refined by the ARC cadre between the guide development phase and the first evaluation. Subsequently, the research team revised the guide to accurately reflect the most recent version of the ARC intangibles.

During the first evaluation, one instructor commented "there needs to be closer match to OBT&E to assess intangibles of ARC." Based upon this comment the research team reviewed the materials pertaining to the intangibles and modified them to better mirror the course objectives. The remaining feedback was very positive. One course leader stated, "The only thing to improve on the guide is remove the word 'Draft' from the title." During the second evaluation, no suggestions for improvement were provided, indicating that both instructors and course leaders were sufficiently satisfied with the maturity of the guide in its current format.

Lessons Learned

The ARI team, which included ARC collaborators, created instructional methods and measurement tools that were well-received by users, assisted in training, and supported the assessment of intangible attributes. The active collaboration between the ARC cadre and ARI researchers was most likely a key factor in the successful development. Equally important, it seems, was the careful alignment of the methods and tools with the instructional demands placed on the cadre. Another key factor was the design approach that emphasized Soldier-friendly, easy-to-use features. "Lean and simple" are important characteristics when implementation takes place in a working environment with severe time pressures. The data do not indicate whether the declarative, self-development materials were more or less valuable than the job aids, but the inclusion of practical tools for accomplishing job duties is considered imperative.

Several limitations in the formative evaluation techniques surfaced. Ratings and comments did not change much across revisions of the guide, likely because instructors were

focusing on their primary duties. In addition, the course leaders may have felt that the feedback queries were lengthy and redundant. Perhaps simpler, global queries would be preferable, such as "Is this guide ready for adoption/implementation?" Participants' level of interest and effort in furnishing feedback might be increased by using probes to evaluate various aspects of the instructional and measurement methods across revisions. Unfortunately, both approaches would also limit the usefulness of the resulting data.

Conclusions

Soldiers' endorsement of the Instructor's P2P Learning Guide for the ARC indicates that the team of ARI researchers and ARC cadre members successfully constructed instructional methods and measurement tools to support FSTD in the ARC program. Using P2P and OBT&E principles as a foundation, the process outlined in this report could be used to create instructional methods and measurement techniques for a variety of other courses.

Many participants commented that the guide is a good tool, resource, and reference for instructors to glean questions, scenarios, and techniques for use during training. Feedback also suggested the guide is easy to understand and helps instructors familiarize themselves with the P2P training method. Instructors found the guide helpful in executing their instructional duties. Overall, the comments on the assessment section of the guide were positive. The assessment tools were perceived as a valuable resource in both the field and the classroom. Following the second evaluation, one course leader commented, "Will include in the ARC course as standard operating procedure."

During operational implementation, the primary aspect of the guide that was identified for improvement was physical size (height and width). Instructors requested a smaller version of the guide that could easily fit into an Army Combat Uniform (ACU) pocket. A pocket version of the guide was produced for the second evaluation and drew positive feedback. Based on the second evaluation, respondents found little else to improve in the guide, including job aids. However, future modifications may emerge as instructors become more seasoned in implementing P2P training during ARC cycles.

The guide provides a valuable tool to foster sound instructorship. It provides simple, straightforward methods that can be adapted for a variety of different learning environments – classroom, counseling sessions, field exercises – using P2P and OBT&E as a general platform. The methodology outlined in this report offers a roadmap for developing materials to be used throughout all phases of a training course. The principles outlined follow a crawl, walk, run model. They provide workable measures of students' proficiency level, identify areas that need improvement, and determine when course goals have been reached. The formative evaluation findings suggest the research team and ARC cadre created an acceptable, suitable, usable, and valuable Instructor's Guide.

Future Directions

The Instructor's P2P Learning Guide for the ARC has become a tool for professional development of the ARC cadre. Dissemination and implementation of the guide have already

occurred. The pocket-sized version was finalized based on cadre feedback and posted on the ARC server. Weather-proof, laminated copies of the guide were provided to enhance the portability of the P2P training materials. The guide has been very useful to the cadre as they conduct P2P training, and its continued utilization seems assured. Over time, the guide will require maintenance and updating to ensure it stays accessible and current.

The guide was posted on the Army Training Network Web site to facilitate introduction and dissemination among Army stakeholders. The Web site is dedicated to making Army training management products accessible. The following short synopsis of the guide's purpose accompanies the website posting: "The Instructor's P2P Learning Guide is a tool to assist ARC instructors in developing reconnaissance leader skills and attributes in an OBT&E learning environment. This guide provides ARC instructors guidelines for implementing and assessing P2P learning as well as job aids to train and assess recon leader skills and attributes."

With the ARC's expanded responsibilities to train reconnaissance leaders for the entire Army, the implications for implementing the guide are long-term. The transition of the ARC program aligns with the Army Leader Development Strategy (Department of the Army, 2009c). The strategy requires Army leaders to (a) confront complex, dynamic, and unanticipated challenges, (b) be competent in core proficiencies and broad enough to operate across the spectrum of conflict, and (c) enable innovative and adaptive leaders at the lowest levels. As implementation of the leader development strategy moves forward, the role of P2P training is likely to increase across the force. The Instructor's P2P Learning Guide for the ARC embodies learning principles that are applicable to other Army courses and leader training functions. Additional work could be conducted to tailor instructor's guides to specific needs of other Army units and courses.

The beneficial aspects of P2P training principles that enable FSTD extend beyond the ARC program. Instructional methods and measurement techniques can be designed for other courses based on the methodology described in this report. Guides can be tailored to the specific skills and attributes of a particular specialty group to support FSTD. Principles of P2P training are applicable to a wide range of training and education programs and fit well with traditional methods of instruction. The process outlined in this report serves as a "proof of concept" for a method to develop instructor's tools to support FSTD.

Soldiers' experience levels should be considered when determining how to incorporate P2P principles into training. For example, the type and extent of P2P training in basic training versus a leader's course may differ. Soldiers who are experts in one area may benefit greatly from sharing their knowledge and experiences with experts in another area, and therefore P2P principles could be incorporated more extensively into training. Conversely, Soldiers with little or no experience may benefit from greater levels of guidance from instructors than inexperienced peers. Course developers need to be mindful of such concerns when developing instructional methods and measurement techniques.

The need to implement P2P training principles is underscored by the constantly changing conditions of FSO. The current military climate cycles Soldiers through multiple deployments. Each deployment brings new challenges which require the ability to adapt quickly to a variety of

situations. Adversaries are constantly modifying their strategies and techniques. Civilian factors vary from village to village and region to region. The complexity of FSO requires Soldiers to maintain a broad and deep base of knowledge. Soldiers can benefit greatly from sharing the knowledge and lessons learned they acquire during deployment. The P2P training methodology presented in this report can create a natural forum for sharing hard-won information. The guide can help Soldiers and instructors focus on "how" and "why" as well as the skills and attributes required to successfully adapt to the inherent uncertainties and complexities of military operations.

In summary, the research reported here was conducted to help prepare Soldiers address the challenges of FSO and particularly COIN. A striking example of today's operational challenges is exemplified by the role of reconnaissance leaders. In response, the Army and TRADOC now stress the need to realize the full spectrum of human capabilities required for FSO. The Instructor's Guide developed for ARC can be readily adapted to foster the skills and attributes required by other Soldiers and leaders.

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Appendix A

Acronyms and Abbreviations

AAR	After Action Review
ACU	Army Combat Uniform
ARC	Army Reconnaissance Course
ARI	U.S. Army Research Institute for the Behavioral and Social Sciences
AWG	Asymmetric Warfare Group
BCT	Brigade Combat Team
CATC	Combat Applications Training Course
CCIR	Commander's Critical Information Requirements
Cdr	Commander
COIN	Counterinsurgency
FM	Field Manual
FSO	Full Spectrum Operations
FSTD	Full Spectrum Training and Development
IAW	In Accordance With
ID	Identification
IPB	Intelligence Preparation of the Battlefield
M	Mean
MOA	Minutes of Angle
NCO	Noncommissioned Officer
OBT&E	Outcomes-Based Training and Education
OIC	Officer in Charge
P2P	Peer-to-Peer
POI	Program of Instruction
RL	Reconnaissance Leader
SD	Standard Deviation
STP	Soldier Training Publication
TRADOC	U.S. Army Training and Doctrine Command

Appendix B

OBSERVATION GUIDE

GOAL

The goal of observing ARC classes and exercises is to document OBT&E and P2P training techniques and tools used by instructors and students.

Observer Duties:

1. Capture notes on questions of interest plus administrative data
2. Organize and share notes and insights from your observations

Instructions:

- Study available instructional materials (e.g., lesson plans) in advance of the event.
- Become familiar with the questions of interest listed on page 2.
- Touch base with the instructor or officer in charge (OIC) at the start of the session.
- Assure the instructor we are not evaluating him, the students, or the POI.
- Take notes while you observe, using the questions of interest as a guide.
- Focus on what behavioral examples are observed.
- Avoid influencing, assisting, or interfering with the conduct of the activities.
- Within 3 days, put your notes into a Microsoft Word file and share with the team.

ADMINISTRATIVE DATA

A. Observer's Name _____

B. Date of Observation _____

C. Name of Class or Exercise _____

D. # Instructors and Their Roles _____
_____

E. # Students and Their Grouping _____
_____

F. Brief Description of Activity _____
_____
_____

G. Observation Start Time _____

H. Observation End Time _____

QUESTIONS OF INTEREST

How are intangibles taught?

1. Which intangible attributes do you see the instructor address during the session?

   Confidence Accountability Initiative Anticipation Problem-Solving Judgment Decision-Making

2. How does the instructor direct the students' attention to the intangibles (e.g., link training to course outcomes)?
3. How does instructor model intangibles (e.g., Socratic questioning, empowering statements)?
4. What % of time does the instructor spend teaching or addressing intangibles?
5. Which methods of instruction are used: (a) lecturing, (b) discussing, (c) demonstrating, (d) practicing, (e) coaching/mentoring/advising, (f) reviewing, (g) testing, and (h) other?

What OBT&E features are applied?

6. What are the problem sets for the training session?
7. How are the problem sets linked to the course outcomes?
8. What steps are used during training to enhance student awareness of the link between the problem sets and the course outcomes?
9. How does the instructor apply OBT&E methods? Describe the activities and techniques.

What P2P training principles are employed?

10. How do the students interact with the instructor(s)? Describe what you see.
11. How do the students interact with each other? Describe what you see. (*Note*: Look for factors that facilitate or inhibit sharing/accepting knowledge and strengthening intangibles.)
12. When do you see students forming splinter groups? Why do they work separately?

How do feedback sessions address OBT&E, especially intangible attributes?

13. Describe feedback sessions for individuals and groups.
14. What topics or issues are addressed during feedback sessions?
15. How is the feedback linked to course outcomes?

What do instructor huddles address?

16. What OBT&E topics, particularly intangibles, are discussed during instructor huddles?
17. Are P2P training techniques used to improve OBT&E processes? Describe what you see.
18. Do the instructors share lessons learned about OBT&E methods? Describe how.

Other Questions

19. What happens during self-assessment and peer-assessment events?
20. When and how could measures of instructor effectiveness be obtained?
21. When and how could measures of group dynamics be obtained?
22. What lessons do you see for incorporating P2P training methods into ARC activities?

OBT&E PROCESS SUMMARY

- Course outcomes are identified and used to guide training.
- Problem sets are introduced to facilitate progress toward achieving course outcomes.
- Facilitators use Socratic questioning to guide students to accept responsibility for achieving. self development, training success and course outcomes.

OBT&E RESULTS

- Soldiers, leaders, and units who teach themselves.
- Soldiers who solve problems as individuals and teams based on knowledge and principles.
- Empowerment by mastery of tangible skills and possession of intangible attributes.

ARC INTENDED OUTCOMES

- Higher fundamental recon skills – land navigation, communication/reporting, tactical analysis.
- Better understanding of higher commander's (Cdr) info requirements, how to find and communicate info.
- Higher skills at planning and executing w/out compromising mission or freedom of action.
- Competence with employment of organic and attached assets – air, ground, technical.
- Confidence in mission-relevant judgment, problem-solving, anticipation, initiative, risk management, accountability.

INTANGIBLE ATTRIBUTES

- Confidence – belief in own ability to handle tactical situations.
- Accountability – willingness to take responsibility for own actions and consequences.
- Initiative – tendency to think and act without being urged.
- Anticipation – ability to think ahead and project future requirements or conditions.
- Problem-solving – inclination to approach problems by applying deliberate thought.
- Judgment – ability to reach sensible conclusions in light of available information.
- Decision making – propensity to make decisions in timely manner.

P2P TRAINING BEST PRACTICES AND OBT&E APPLICATION

P2P TRAINING	OBT&E
Assign group tasks to generate active involvement and ideas	Identify problem sets
Establish measurable training objectives	Link training to the problem sets/course outcomes
Avoid traditional "instructor-student" roles	Students assume responsibility for learning
Ask open-ended questions to guide dialogue	Use Socratic questioning and empowering statements to guide students
Incorporate activities to promote social interaction	Configure problem-focused teams, conduct feedback sessions
Use different group configurations to generate information exchanges	Instructor adjusts learning demands to maximize student interaction or collaboration
Require Soldiers to apply new knowledge during the session	Demonstrate intangibles by applying what's learned
Leverage instructor as a model of expert learning process	

Project Facts

Title: Method and Measure Refinements for Outcomes Based Training (OBT&E)

Performing organization: U.S. Army Research Institute – Fort Knox

Period of performance: 16 Mar 09 to 15 Mar 10 (12 months)

Project goal: Use peer-to-peer (P2P) training methods to facilitate Full Spectrum Training in ARC

Products: P2P-based training methods and assessment measures for use by ARC instructors

Project Method and Outcomes

- Observe and support ongoing efforts to apply the OBT&E approach to ARC.
- Develop P2P-type training methods to *improve the ability of ARC instructors to model intangible Soldier attributes*. This includes developing guidance and job aids for ARC instructors based on a previously developed P2P training facilitator's guide.
- Develop P2P-type measurement methods to *assess how well ARC instructors model intangible Soldier attributes*.
- Package the P2P-type training and assessment methods in an *instructor-friendly guide*.
- Implement the training and measurement methods, and obtain feedback from ARC course developers, instructors, and students.
- The *P2P-Focused Instructor's Guide* may become a tool for professional development of ARC cadre.

Appendix C

ARC INSTRUCTOR FEEDBACK QUESTIONNAIRE

Date: _____

Instructions: The questions below ask for your opinions about the Instructor's P2P Training Guide provided by ARI. While answering these questions, please focus on your reactions and experiences throughout the course. Write-in comments, both positive and negative, are encouraged. Please use a separate sheet of paper if you need additional space.

1. How often did you study or apply the various parts of the P2P Training Guide?	Circle One for Each Item				
	Never	Once	Twice	Three Times	Four/+ Times
a. Utilization Scenario	1	2	3	4	5
b. Training Basics	1	2	3	4	5
c. Learning Model (diagram)	1	2	3	4	5
d. Best Practices for P2P Training	1	2	3	4	5
e. Setting P2P Training Conditions	1	2	3	4	5
f. Recon Leader Skills and Attributes	1	2	3	4	5
g. Training Techniques and Action Guidelines	1	2	3	4	5
h. Best Practices for P2P Training Assessment	1	2	3	4	5
i. Assessment Techniques and Action Guidelines	1	2	3	4	5
j. Job Aid: Recognizing P2P Training Opportunities	1	2	3	4	5
k. Job Aid: Using Guiding Questions	1	2	3	4	5
l. Job Aid: Exploiting P2P Training Potential	1	2	3	4	5
m. Job Aid: Using Empowering Statements	1	2	3	4	5
n. Job Aid: Deterring Threats to Training	1	2	3	4	5
o. Job Aid: Student Assessments	1	2	3	4	5
p. Job Aid: Instructor Assessments	1	2	3	4	5
q. Job Aid: Hotwash/After Action Review (AAR)	1	2	3	4	5
Comments and Suggestions:					

2. When did you use the guide? (Circle all that apply)

Self-Study Preparation for Training Execution of Training Assessment of Students

Please explain:

3. What problems did you encounter in understanding or using the guide?

4. What was the most useful part of the guide? (Circle one)

Utilization Scenario P2P Training Basics & Process P2P Training Guidelines/Techniques

P2P Training Assessment Guidelines/Techniques P2P Training Job Aids P2P Training Assessment Job Aids

Hotwash/AAR Job Aid

Please explain why:

5. What could be added to the guide to better assist you as an instructor?

6. What could be eliminated from the guide without degrading its usefulness?

7. How do you feel about the clarity and usefulness of the sections of the guide's <u>instructional materials</u>?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I found the **Utilization Scenario** clear	1	2	3	4	5
b. I found the **Utilization Scenario** useful	1	2	3	4	5
c. I found the **P2P Training Basics** section clear	1	2	3	4	5
d. I found the **P2P Training Basics** section useful	1	2	3	4	5
e. I found the **ARC P2P Training Model** clear	1	2	3	4	5
f. I found the **ARC P2P Training Model** useful	1	2	3	4	5
g. I found the **P2P Training Best Practices** section clear	1	2	3	4	5
h. I found the **P2P Training Best Practices** section useful	1	2	3	4	5
i. I found the **Setting P2P Training Conditions** section clear	1	2	3	4	5
j. I found the **Setting P2P Training Conditions** section useful	1	2	3	4	5
k. I found the **Recon Leader Skills and Attributes** section clear	1	2	3	4	5
l. I found the **Recon Leader Skills and Attributes** section useful	1	2	3	4	5
m. I found the **P2P Training Techniques** section clear	1	2	3	4	5
n. I found the **P2P Training Techniques** section useful	1	2	3	4	5
o. I found the **P2P Training Assessment Best Practices** section clear	1	2	3	4	5
p. I found the **P2P Training Assessment Best Practices** section useful	1	2	3	4	5
q. I found the **P2P Training Assessment Techniques** section clear	1	2	3	4	5
r. I found the **P2P Training Assessment Techniques** section useful	1	2	3	4	5
Comments and Suggestions:					

8. How do you feel about the clarity and usefulness of the <u>job aids</u> in the guide?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I found **Recognizing P2P Training Opportunities** clear	1	2	3	4	5
b. I found **Recognizing P2P Training Opportunities** useful	1	2	3	4	5
c. I found **Using Guiding Questions** clear	1	2	3	4	5
d. I found **Using Guiding Questions** useful	1	2	3	4	5
e. I found **Exploiting P2P Training Potential** clear	1	2	3	4	5
f. I found **Exploiting P2P Training Potential** useful	1	2	3	4	5
g. I found **Using Empowering Statements** clear	1	2	3	4	5
h. I found **Using Empowering Statements** useful	1	2	3	4	5
i. I found **Deterring Threats to Training** clear	1	2	3	4	5
j. I found **Deterring Threats to Training** useful	1	2	3	4	5
k. I found **Assessment of Student** clear	1	2	3	4	5
l. I found **Assessment of Student** useful	1	2	3	4	5
m. I found **Assessment of Instructor** clear	1	2	3	4	5
n. I found **Assessment of Instructor** useful	1	2	3	4	5
o. I found the **Hotwash/AAR Job Aid** clear	1	2	3	4	5
p. I found the **Hotwash/AAR Job Aid** useful	1	2	3	4	5
Comments and Suggestions:					

9. How do you feel about the suitability of the <u>assessment job aids</u> found in the guide?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The **Assessment of Student** job aids measure the right skills	1	2	3	4	5
b. The **Assessment of Student** job aids measure the right attributes	1	2	3	4	5
c. The **Assessment of Student** job aids take too long to implement	1	2	3	4	5
d. The **Assessment of Student** job aids can be used in the classroom	1	2	3	4	5
e. The **Assessment of Student** job aids can be used in field exercises	1	2	3	4	5
f. The **Assessment of Student** job aids can be used for counseling	1	2	3	4	5
g. The **Assessment of Student** job aids can be used at the end of a block	1	2	3	4	5
h. The **Assessment of Student** job aids can be used at the course's end	1	2	3	4	5
i. The **Assessment of Student** job aids work well in 5x8 format	1	2	3	4	5
j. The **Assessment of Instructor** job aid measures the right attributes	1	2	3	4	5
k. The **Assessment of Instructor** job aid takes too long to implement	1	2	3	4	5
l. The **Assessment of Instructor** job aid can be used at end of a block	1	2	3	4	5
m. The **Assessment of Instructor** job aid can be used at the course's end	1	2	3	4	5
n. The **Assessment of Instructor** job aid works well in 5x8 format	1	2	3	4	5
Comments and Suggestions:					

10. What do you like <u>best</u> about the Instructor's P2P Training Guide?

11. What do you like <u>least</u> about the Instructor's P2P Training Guide?

12. Which parts of the guide work better in larger (8.5x11) rather than smaller (5x8) format?

13. What are the primary benefits of using the guide?

14. How would you improve the following parts of the guide?
Utilization Scenario: P2P Training Basics: P2P Training Model (diagram): P2P Training Guidelines/Techniques: Recon Leader Skills and Attributes: P2P Training Assessment Guidelines/Techniques: Job Aids for Training: Job Aids for Assessment: Hotwash/AAR Job Aid:

15. What other comments or suggestions do you have?

Thank you for your feedback!

Appendix D

ARC LEADER FEEDBACK QUESTIONNAIRE

Date: _____

Instructions: The questions below ask for your opinions about the Instructor's P2P Training Guide provided by ARI. While answering these questions, please focus on your reactions and insights while the guide was being used. Write-in comments, both positive and negative, are encouraged. Please use a separate sheet of paper if you need additional space.

1. How well does the guide align with the course POI?

2. How did you use the guide? (Circle all that apply)
Guiding Instructors Advising Students Assessing Students Assessing Instructors Evaluating the POI
Please describe how you used the guide:

3. What problems did you encounter in understanding or using the guide?

4. How much do you agree or disagree with the following statements about the guide?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The guide provides information that is relevant to the ARC POI	1	2	3	4	5
b. The guide supports the various ARC instructional activities	1	2	3	4	5
c. The guide can help the cadre sharpen their instructional practices	1	2	3	4	5
d. The guide can help improve the student learning process	1	2	3	4	5
e. The guide can help instructors achieve desired course outcomes	1	2	3	4	5
f. The guide explains P2P training principles and practices adequately	1	2	3	4	5
g. The guide identifies the appropriate Recon Leader Skills	1	2	3	4	5
h. The guide properly defines each Recon Leader Skill	1	2	3	4	5
i. The guide identifies the appropriate Recon Leader Attributes	1	2	3	4	5
j. The guide properly defines each Recon Leader Attribute	1	2	3	4	5
k. The guide provides enough job aids to meet instructor needs	1	2	3	4	5
l. The guide is tailored to the ARC instructional environment	1	2	3	4	5
m. The guide contains the right level of detail for instructors	1	2	3	4	5
n. The guide uses language and terms that are familiar to the cadre	1	2	3	4	5
o. The guide avoids unnecessary or excess information	1	2	3	4	5
p. The guide is well organized and easy to follow	1	2	3	4	5
q. The guide is easy for the ARC cadre to use	1	2	3	4	5
r. The guide is formatted and packaged attractively	1	2	3	4	5
s. The guide should be pocket sized for easy carrying	1	2	3	4	5
t. The guide is a valuable addition to the ARC toolkit	1	2	3	4	5
u. The guide should be used routinely by the ARC cadre	1	2	3	4	5
Comments and Suggestions:					

5. What could be added to the guide to better assist you or the instructors?

6. What could be eliminated from the guide without degrading its usefulness?

7. How do you feel about the clarity and usefulness of the sections of the guide's <u>instructional materials</u>?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I found the **Utilization Scenario** clear	1	2	3	4	5
b. I found the **Utilization Scenario** useful	1	2	3	4	5
c. I found the **P2P Training Basics** section clear	1	2	3	4	5
d. I found the **P2P Training Basics** section useful	1	2	3	4	5
e. I found the **ARC P2P Training Model** clear	1	2	3	4	5
f. I found the **ARC P2P Training Model** useful	1	2	3	4	5
g. I found the **P2P Training Best Practices** section clear	1	2	3	4	5
h. I found the **P2P Training Best Practices** section useful	1	2	3	4	5
i. I found the **Setting P2P Training Conditions** section clear	1	2	3	4	5
j. I found the **Setting P2P Training Conditions** section useful	1	2	3	4	5
k. I found the **Recon Leader Skills and Attributes** section clear	1	2	3	4	5
l. I found the **Recon Leader Skills and Attributes** section useful	1	2	3	4	5
m. I found the **P2P Training Techniques** section clear	1	2	3	4	5
n. I found the **P2P Training Techniques** section useful	1	2	3	4	5
o. I found the **P2P Training Assessment Best Practices** section clear	1	2	3	4	5
p. I found the **P2P Training Assessment Best Practices** section useful	1	2	3	4	5
q. I found the **P2P Training Assessment Techniques** section clear	1	2	3	4	5
r. I found the **P2P Training Assessment Techniques** section useful	1	2	3	4	5
Comments and Suggestions:					

8. How do you feel about the clarity and usefulness of the <u>job aids</u> in the guide?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. I found **Recognizing P2P Training Opportunities** clear	1	2	3	4	5
b. I found **Recognizing P2P Training Opportunities** useful	1	2	3	4	5
c. I found **Using Guiding Questions** clear	1	2	3	4	5
d. I found **Using Guiding Questions** useful	1	2	3	4	5
e. I found **Exploiting P2P Training Potential** clear	1	2	3	4	5
f. I found **Exploiting P2P Training Potential** useful	1	2	3	4	5
g. I found **Using Empowering Statements** clear	1	2	3	4	5
h. I found **Using Empowering Statements** useful	1	2	3	4	5
i. I found **Deterring Threats to Training** clear	1	2	3	4	5
j. I found **Deterring Threats to Training** useful	1	2	3	4	5
k. I found **Assessment of Student** clear	1	2	3	4	5
l. I found **Assessment of Student** useful	1	2	3	4	5
m. I found **Assessment of Instructor** clear	1	2	3	4	5
n. I found **Assessment of Instructor** useful	1	2	3	4	5
o. I found the **Hotwash/AAR Job Aid** clear	1	2	3	4	5
p. I found the **Hotwash/AAR Job Aid** useful	1	2	3	4	5
Comments and Suggestions:					

9. How do you feel about the suitability of the <u>assessment job aids</u> found in the guide?	Circle One for Each Item				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
a. The **Assessment of Student** job aids measure the right skills	1	2	3	4	5
b. The **Assessment of Student** job aids measure the right attributes	1	2	3	4	5
c. The **Assessment of Student** job aids take too long to implement	1	2	3	4	5
d. The **Assessment of Student** job aids can be used in the classroom	1	2	3	4	5
e. The **Assessment of Student** job aids can be used in field exercises	1	2	3	4	5
f. The **Assessment of Student** job aids can be used for counseling	1	2	3	4	5
g. The **Assessment of Student** job aids can be used at the end of a block	1	2	3	4	5
h. The **Assessment of Student** job aids can be used at the course's end	1	2	3	4	5
i. The **Assessment of Student** job aids work well in 5x8 format	1	2	3	4	5
j. The **Assessment of Instructor** job aid measures the right attributes	1	2	3	4	5
k. The **Assessment of Instructor** job aid takes too long to implement	1	2	3	4	5
l. The **Assessment of Instructor** job aid can be used at end of a block	1	2	3	4	5
m. The **Assessment of Instructor** job aid can be used at the course's end	1	2	3	4	5
n. The **Assessment of Instructor** job aid works well in 5x8 format	1	2	3	4	5
Comments and Suggestions:					

10. What do you like <u>best</u> about the Instructor's P2P Training Guide?

11. What do you like <u>least</u> about the Instructor's P2P Training Guide?

12. What are the primary benefits of using the guide?

13. How would you improve the following parts of the guide?
Utilization Scenario: P2P Training Basics: P2P Training Process (diagram): P2P Training Guidelines/Techniques: Recon Leader Skills and Attributes: P2P Training Assessment Guidelines/Techniques: Job Aids for Training: Job Aids for Assessment: Hotwash/AAR Job Aid:

14. What other comments or suggestions do you have?

Thank you for your feedback!

Appendix E

ARC-P2P Training Formative Evaluation
QUERY GUIDE – END-OF-BLOCK FEEDBACK SESSION

Instructions for Researcher(s):

1. As an attendee at the end-of-block feedback sessions, you can expect opportunities to query the cadre about their use of the Instructor's P2P Training Guide. Your queries will complement the primary discussion of instructional issues.
2. The purpose of the query process is to obtain instructors' opinions and suggestions about the Instructor's P2P Training Guide, based on their experiences while using the guide in conjunction with their ARC training activities.
3. Use the questions that start on the next page as a guide, not a rigid protocol. Stay flexible so you can cover issues and concerns of special interest to the instructors. You may not be able to cover all the questions of interest.
4. Feel free to ask other questions of your own, especially for follow-up or clarification.
5. Take along several copies of the Instructor's P2P Training Guide to help facilitate the discussion, as appropriate.
6. Take thorough notes during the session, preferably with the help of a fellow researcher.
7. You may audio-record the discussion as a backup to the written notes. If you do so, be sure to ask the group if anyone objects to the recording.
8. Within 3 days, use your notes to compile a detailed summary in a Microsoft Word file. Organize your detailed summary by questions.

Rules of the Road:

1. When possible, coordinate in advance with the session leader (e.g., Course Leader) to agree on workable procedures.
2. If discussion of the guide is part of the agenda, try to concentrate your queries in the block of time designated for the research dialogue.
3. If there is no dedicated block of time for discussing the guide, look for logical openings to relate the questions in this guide to the topics under discussion.
4. Respect the session leader's role as the person in charge, unless he clearly turns the floor over to the research team.
5. If time limits have been announced, watch the clock so the session ends on time.
6. Avoid interrupting the primary cadre dialogue unless there is a compelling reason for seizing the moment.
7. Be alert for potential sensitivities of the instructors, so you can avoid putting them on the defense in public.

ADMINISTRATIVE DATA

Block #: _____ Date: _____ # Instructors: _____

Researcher(s): _____ Location: _____

HANDOUT: If the opportunity arises, hand out copies of the Instructor's P2P Training Guide to participants who would like one.

QUESTIONS OF INTEREST

1) How well did the guide help you understand P2P training methods?

2) Did the guide help you focus training on recon leader skills and attributes? Please explain.

3) How did the guide help you prepare for P2P training activities? What job aids did you use?

4) How did the guide help you improve the ARC training activities?

5) Did the guide help you assess the students' skills and attributes? Please explain.

6) How did the guide help you improve assessment of students? What job aids did you use?

7) How did the guide help you provide feedback to students? What job aids did you use?

8) Which job aid(s) did you find especially useful? How did you use them?

9) Did the guide help you track the progress of individual students? Please explain.

10) How much time did it take to study and employ the materials in the guide? Too much?

11) What did you like most about the guide? What did you like least?

12) How do you think ARC instructors can best use the guide?

13) What are the benefits of using the guide?

14) Did you encounter any problems while using the guide? Please explain.

15) How would you improve the guide – contents, organization, packaging?